



The Mash Report

During 2019 & 2020 Archaeology RheeSearch Group carried out magnetometry and resistivity surveys on this site to determine whether any archaeological features were detectable.

Members participating: Brian Bridgland, Pat Davies, Richard Freeman, Liz Livingstone, Ian Sanderson, Gill Shapland, Maureen Storey and Tony Storey.

Site owner: Lewis Duke.

Site conditions: Stubble or low beet crop.

Equipment: Bartington 601 gradiometer; TRCIA 50 cm twin probe.

Magnetometry readings: 8/m, 1 m separation.

Resistivity readings: 1 m interval, 1 m separation.

Raw data available from Archaeology RheeSearch Group.

Location: TL490440, Ickleton, Cambs.



Location plan: Survey areas
(resistivity survey areas hatched, magnetometry area solid,
resistance tomography red & white line)

Purpose of survey: The purpose of this survey was to determine if any subsurface features could be detected that might be related to cropmarks on aerial photographs.

Site topography:

Moderate slope down to the southeast levelling towards a stream bounding the field. The east boundary was post and rail fence with metal around mature trees. That boundary turned north east part way along that side.

Results:

The images in this section are orientated for presentation. The images are not to a common scale.

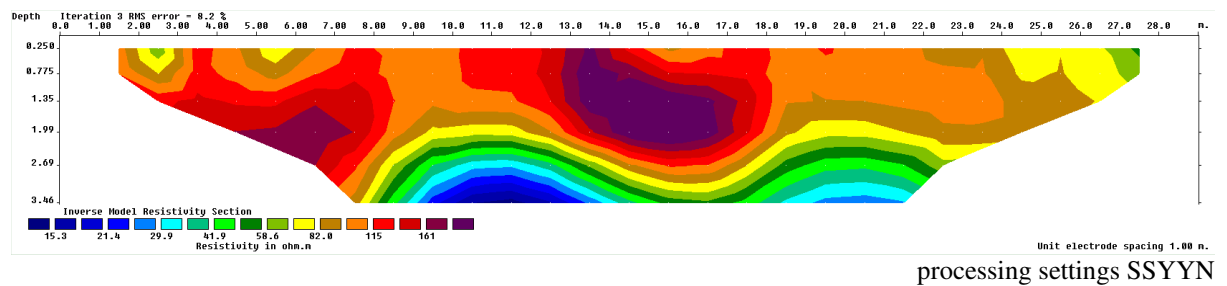
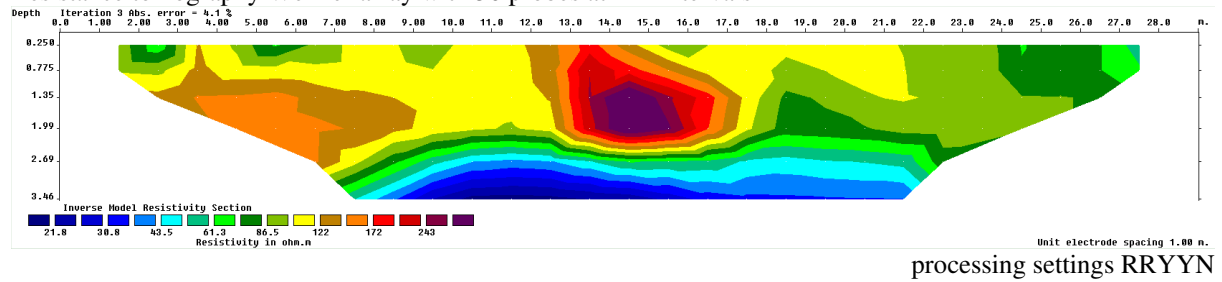
Resistivity survey, 90 m x 96 m

		<p>Resistivity Raw data</p>
		<p>High pass filter 5</p>
<p>(black – low, white – high, red – null)</p>	<p>(purple/blue – low, red – high, white – null)</p>	

Resistivity survey, 90 m x 60 m

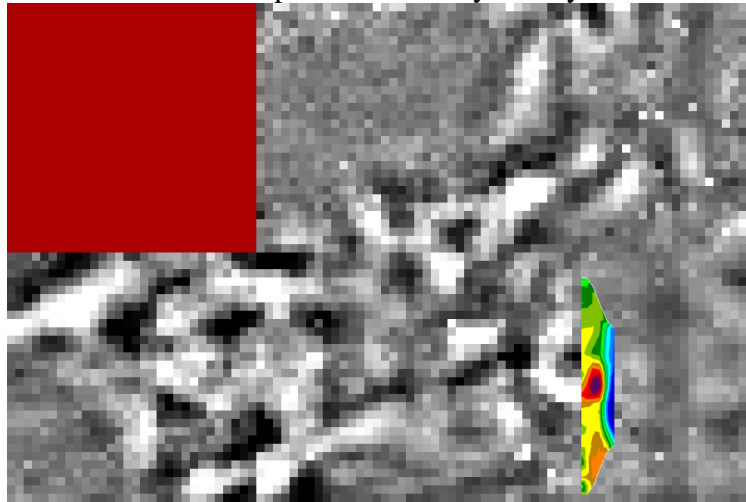
		<p>Resistivity Raw data</p> <p style="text-align: right;">N ↑</p>
		<p>High pass filter 4</p> <p style="text-align: right;">N ↑</p>
<p>(black – low, white – high, red – null)</p>	<p>(purple/blue – low, red – high, white – null)</p>	

Resistance tomography Wenner array with 30 probes at 1 m intervals

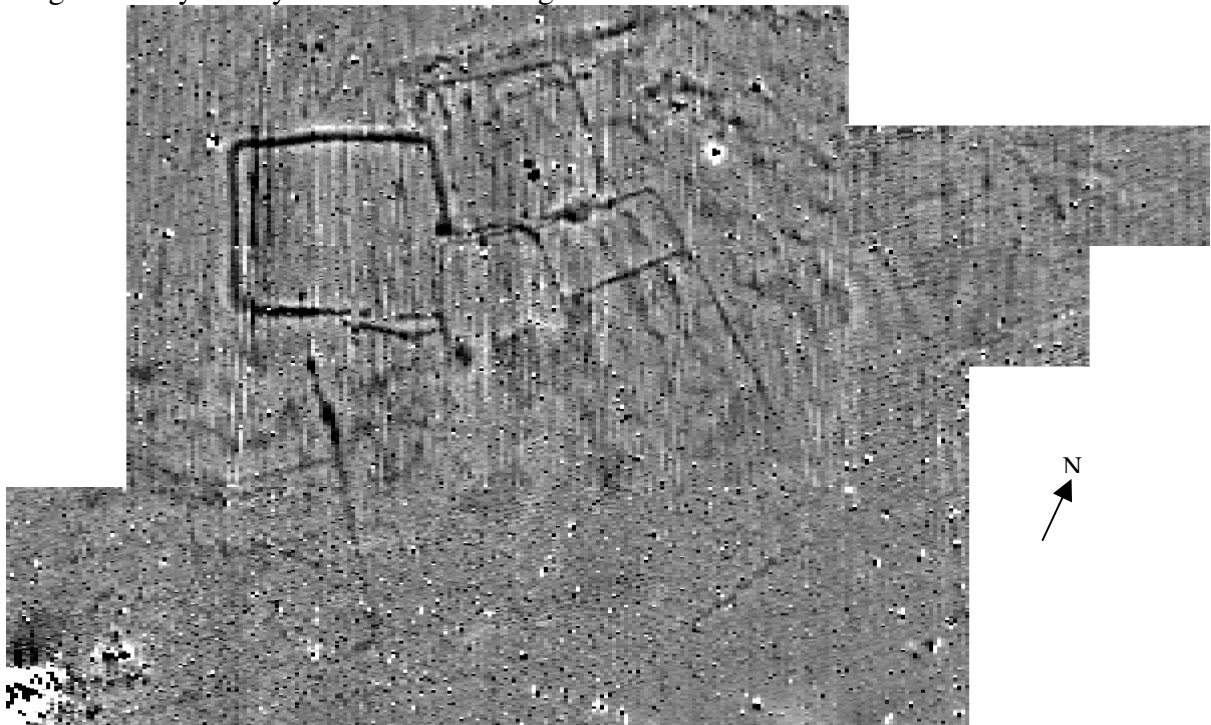




Orientation and position of tomography superimposed on the planar resistivity survey

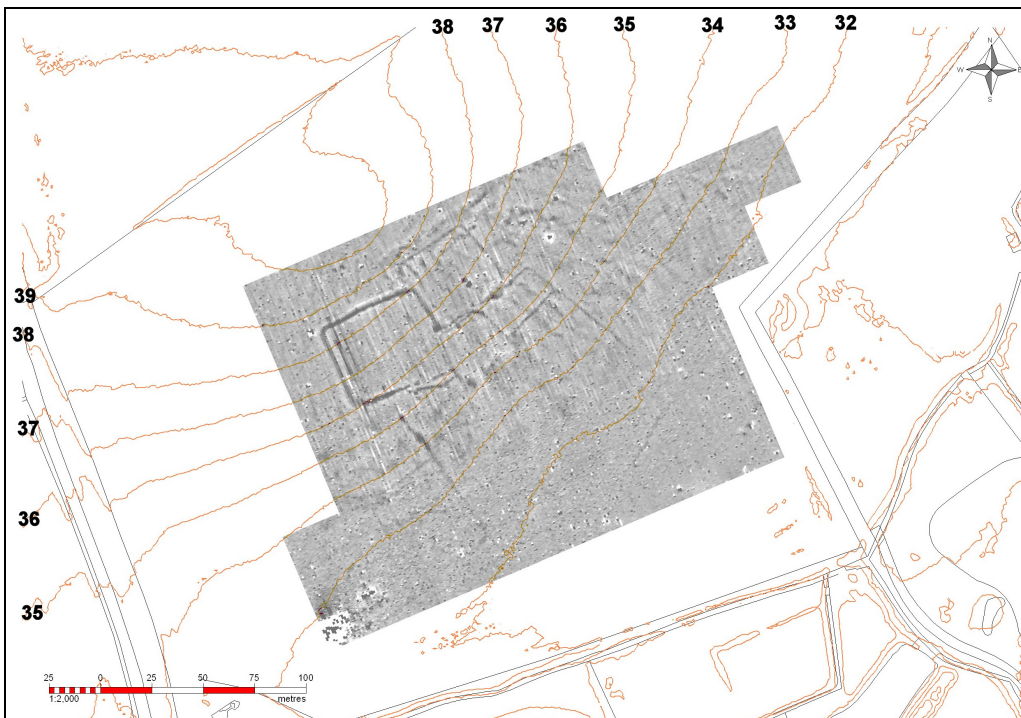


Magnetometry survey 300 m x 180 m range +5 to -5 nT





Survey areas on an aerial photograph



Magnetometry results with 1 m contour lines

Discussion:

The magnetometry survey suggests a farmstead and field complex with two different orientations. The square feature with particularly strong responses on the W side is orientated NNW whereas the weaker responses to the E of the square feature are orientated NW, as are the fainter features to the S. The narrow rectilinear features to the E of the square feature have a diffuse band of responses running parallel to and about 6 m from the most northerly narrow line. This band continues to the edge of the survey where it fades out, but may turn SE. It

may be that a farmstead (the fainter responses representing shallower ditches) had at some stage to become a defensive stockade (stronger responses representing bigger and deeper ditches), with a slight re-orientation to optimise defence. This could also simply represent two phases of occupation.

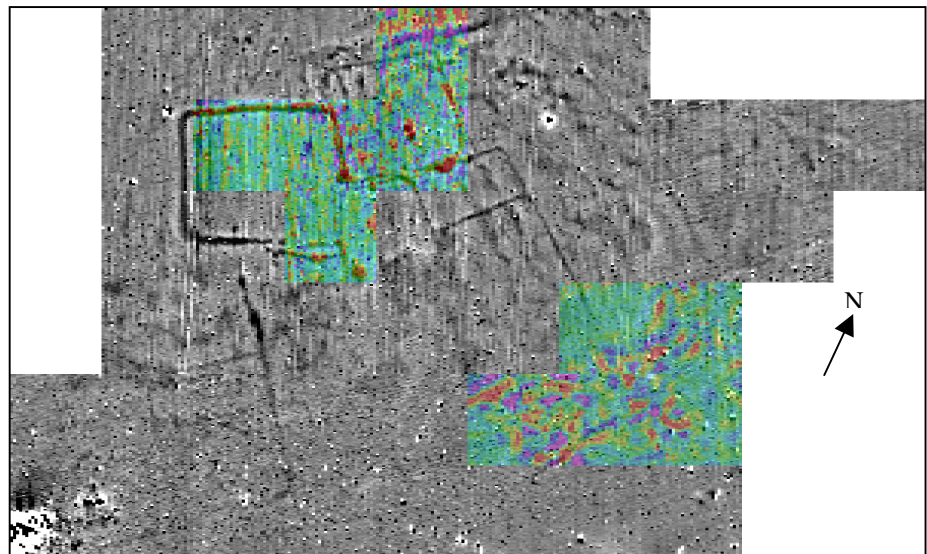
The lack of responses in the S part of the survey (below the 32 m contour) suggest that the majority of the signals have been lost, probably washed out by flooding from the stream in that direction, which may have had a slightly more northerly course at some stage.

The N area resistivity results clearly show the N and E sides of the square feature shown in the magnetometry results as unexpectedly high values. This line of high values, with breaks, continues to the E before turning N. The E branch has a distinct area of high resistance which corresponds to a similar sized magnetic feature.

The band adjacent to the N edge of the NW aligned features also shows clearly but as low response values and with a line of high values alongside.

The E resistivity survey has a line of high values which corresponds to the single clear magnetic line in the SE part of that survey. This is orientated NE towards the NE turn of the E boundary of the site.

There are faint indications of a parallel magnetic line about 8 m



to the N. This probably reflects a track from the entrance to an abbey complex to the S of this site towards Hinxton. The E side of this resistivity survey has a semi-circular ring of high values about 11 m diameter and 2 m wide enclosing a centre of low values. A tomography survey across this feature showed a block of high resistance about 2 m deep, almost vertical on its S side and elongated on its N side without marked low values at the centre of the survey. This feature was initially thought to be a well structure, but the tomography results suggest either a structure requiring substantial foundations or a capped void space.